

- (d) means for processing said video image data containing recorded image representations of said light reflective element whereby determining a plurality of motion measurements of said light reflective element, and thereby said golf putter to which said light reflective element is attached;
- a set of computer algorithms for processing said video image data as recorded from each single said video recording device containing recorded image representations of said light reflective element whereby determining a plurality of said absolute linear and angular motion measurements of said light reflective element relative to said reference datum, and thereby said golf putter to which said light reflective element is attached;
- (e) a display device providing means for presenting said absolute linear and angular motion measurements;
- (f) means for calibration such that measurement error caused by distortion or misalignment of said image recording devices is substantially reduced; means for calibration process that determines said reference datum and measurement correction factors necessary to compensate for measurement errors caused by optical distortion, misalignment, or positional variance of said individual image recording devices;
- (g) means for processing and correcting said absolute linear and angular motion measurements using said calibration correction factors relative to said reference datum;

whereby providing objective physical motion information to aid in instruction and correction of said putting stroke.

whereby providing corrected, absolute linear and angular motion measurement information to aid in instruction and improvement of said putting stroke.

**Claim 2 (currently amended):**

The analysis tool as defined in claim 1 further comprising a means for automatically starting a detection process as part of processing said video image data based on a predetermined amount of change of said video image data contained within a user defined hot-spot region as a function of time.

The analysis tool as defined in claim 1 further comprising a means for automatically starting a detection and analysis process as part of processing said video image data from an individual said video image recording device based on a predetermined amount of change within a user defined image region of same said video image data from the same individual said video image recording device as a function of time.

**Claim 3 (currently amended):**

~~The analysis tool as defined in claim 1 further comprising a calibration fixture containing a guiding feature and visual calibration target aligned to one another to aid in the process of calibrating and aligning said analysis tool.~~

The analysis tool as defined in claim 1 further comprising a calibration fixture assembly to perform said calibration process, comprising:

- (a) a physical golf ball guide with alignment feature;
- (b) a visual calibration target.

whereby a recorded video image of aligned said visual calibration target is processed to perform said calibration process.

**Claim 4 (currently amended):**

The calibration fixture as defined in claim 3 wherein said guiding feature is a slot of sufficient dimensions to guide a rolling golf ball to determine a direction vector said golf ball must travel along to successfully reach a target zone.

The calibration fixture assembly as defined in claim 3 wherein said physical golf ball guide is a groove of sufficient dimensions to physically guide a rolling golf ball to determine the initial direction vector said golf ball must travel along to successfully reach a specified target zone.

**Claim 5 (currently amended):**

The calibration fixture as defined in claim 3 wherein said visual calibration target is a uniform pattern of distinct features contained on a surface of said calibration fixture used to calibrate and compensate for distortion or misalignment of said video image recording devices.

The calibration fixture assembly as defined in claim 3 wherein said visual calibration target contains on its surface a uniform pattern of distinct features that can be manually aligned to the said physical golf ball guide alignment feature to facilitate the process of calibrating and aligning said analysis tool.

**Claim 6 - 14 (canceled)**

**Claim 15 (currently amended):**

~~The method as defined in claim 14 whereby said detection process employs digital image processing algorithms to find a center location and edges of the representation of said reflective element in each said frame of video image data, thereby determining position and angle of said golf putter.~~

The set of computer algorithms as defined in claim 1 further comprising a detection process using digital image processing techniques to find a center location and edge boundaries of the representation of said reflective element in each frame of said video image data from a single said video recording device, thereby determining said absolute linear and angular motion measurements of said light reflective element relative to said reference datum.

**Claim 16 (currently amended):**

~~The method as defined in claim 11 whereby said secondary motion data is comprised of stroke tempo, back stroke distance, follow through distance, off-line distance, and variance from ideal path.~~

The analysis tool as defined in claim 1 further comprising a means to calculate secondary motion data from said absolute linear and angular motion measurements of said light reflective element relative to said reference datum. This said secondary motion data is comprised of stroke tempo, back stroke distance, follow through distance, off-line distance, and variance from ideal path.

**Claim 17 - 20 (canceled)**